



WMAC UPDATE Water Accountability

**COMMISSION MEETING
March 16, 2005**

Water Management Advisory Committee Update:

Current Work Items before the Committee:

- Basin Plan – prioritization / issues for WMAC
- Demand Forecasting – Basin-wide and PA Act 220
- Water Budgets/GW Availability – USGS study completion
- Water Accountability – see discussion below

Water Management Advisory Committee Update: Water Accountability

Overview:

- Inform Commissioners of WMAC discussions
- Summarize key findings
- Outline proposed next steps
- OK for WMAC to proceed?

WATER ACCOUNTABILITY: History

- Late '80s / early '90s: DRBC enacted a suite of Water Conservation regulations (metering, efficient plumbing fixtures, conservation pricing incentives, etc)
- Resolution 87-6: Leak detection and repair for water purveyors:
 - Aim of the resolution was to ensure water distribution system efficiency (water accountability)
 - Required purveyors to report “unaccounted for water” (UFW)
 - Systems in excess of **15% UFW** required a plan to improve

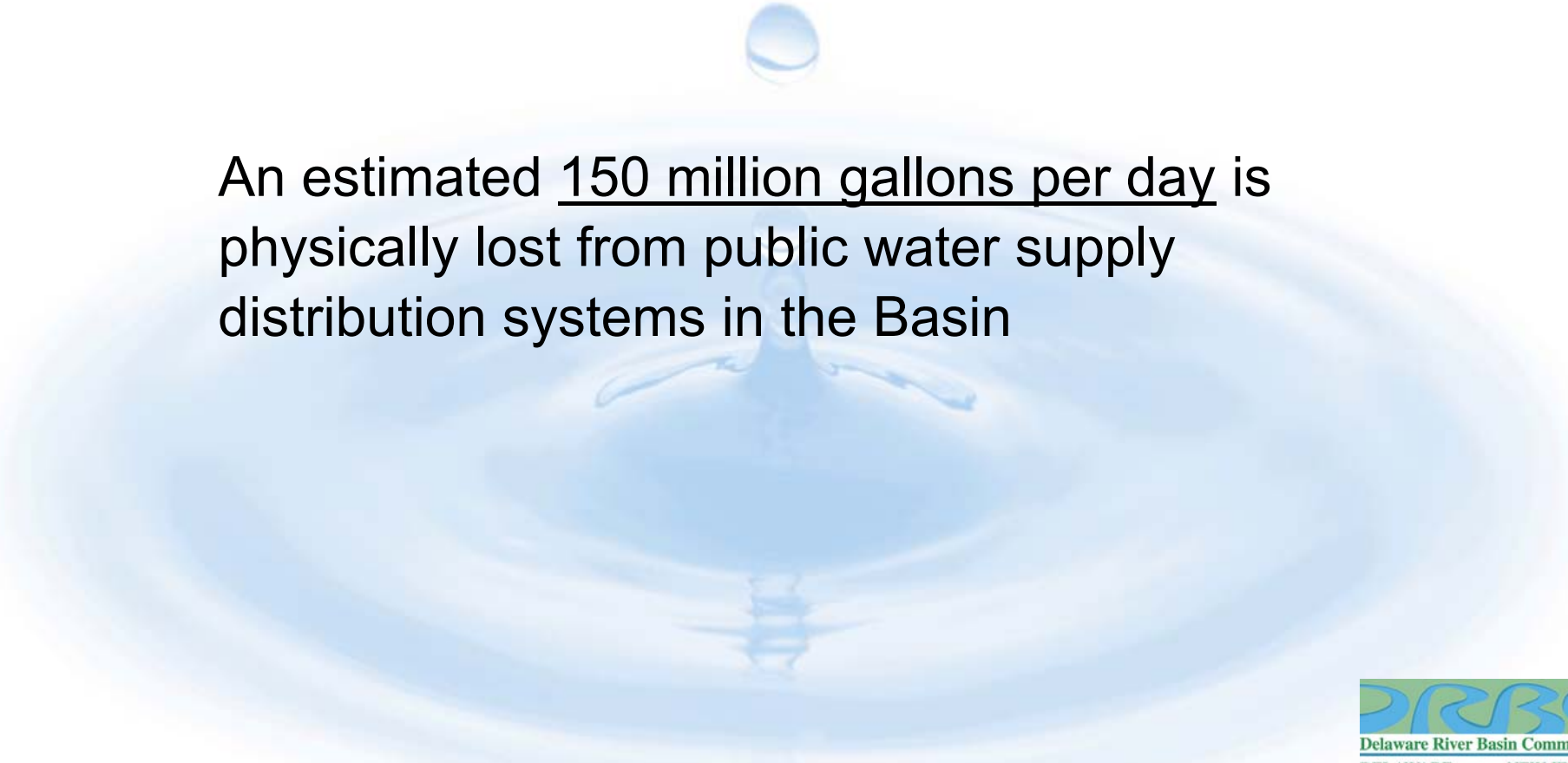
WATER ACCOUNTABILITY: Problems with Current Approach

- States have different methods for determining UFW
- Data are not comparable hindering decision-making
- 15% target is not a technically defensible target

Real losses: treated and pressurized water is lost through leaking infrastructure

Apparent losses: revenue is lost due to poor accounting methods, inaccurate meters and unauthorized consumption

WATER ACCOUNTABILITY: Loss Estimate



An estimated 150 million gallons per day is physically lost from public water supply distribution systems in the Basin

WATER ACCOUNTABILITY: WMAC Discussion

- Basin Plan Objective 1.3C promotes efficient use of water
- George Kunkel (PWD) introduced new concepts in water accountability to WMAC.
- Sub-committee formed to review potential (met 3 times)
- Water Audit Methodology Sub-committee reviewed International Water Association (IWA) / American Water Works Association (AWWA) approach
- Concluded that new methodology represents a more rational and standardized approach
- Larger systems have begun to implement WA

WATER ACCOUNTABILITY: Benefits of IWA/AWWA Method

- Published by IWA in 2000 & by AWWA in August 2003
- Rational definitions & labels for uses and losses
All water goes to either a valid Use or a Loss!
- Technical & financial performance indicators allow realistic assessments, benchmarking and target-setting e.g.,
 - volume / service connection / day
 - volume / length main / day
- Improved accounting by utilities = cost savings

KEY FINDINGS

Improving water accountability will...

- Provide a necessary first step towards identifying water losses and improving water supply efficiency
- Provide meaningful performance indicators to help DRBC and others identify systems with the greatest losses
- Identify ways to improve water supply efficiency, thereby reducing water withdrawals

WMAC RECOMMENDED NEXT STEPS

- **Phase I (Summer / Fall 2005):**
 - investigate suitability of new methods
 - involve DRB water purveyors in AWWA software testing
- **Phase II (Winter 2005):**
 - endorse methodology / develop position statement
 - host information on DRBC website
- **Phase III (2006-2009):**
 - DRBC applies these methods
 - revise DRBC resolutions/data collection for new methods
 - phase in: AWWA method is preferred format for three years, then becomes the required format

DRBC RESOLUTIONS POTENTIALLY AFFECTED BY REVISED AWWA METHODS

- **Source Metering (Resolution No. 86-12)**
- **Leak Detection and Repair (Resolution No. 87-6 Revised)**
 - Avoid use of the term “unaccounted-for water”
 - Consider alternatives to simplistic % as a performance indicator
- **Service Metering (Resolution No. 87-7 Revised)**
 - As water meter accuracy is important for developing a water audit, meter calibration, replacement & accuracy should be a priority
- **Reporting Requirements (Resolution No. 2001-8)**
 - Avoid use of the term “unaccounted-for water”
 - Ensure data are collected using well-defined & meaningful terminology
 - Ensure data are readily comparable between utilities